

Guest editorial: Operational excellence and quality improvement in the African continent

1. Introduction

Within Africa, there has been an increase in manufacturing, particularly in South Africa, which is the continent's most developed country. Additionally, improvements in infrastructure and mobile communications have occurred in recent decades, aiding development (Gutman *et al.*, 2015; Mersha, 2000). Operational excellence is important for Africa as it can help in economic growth and competitiveness, enhanced resource utilisation of scarce resources, infrastructure development, improved foreign investment, job creation and poverty reduction, healthcare and education improvement, agricultural development, public service delivery, financial inclusion, improved ability to meet SDG goals, enhanced utilisation of natural resource mines and resilience to challenges (Allu and Emuze, 2018; Kikuchi and Suzuki, 2018). *Quality Management and Operational Excellence* have a tradition in Africa. Continuous improvement methodologies have been deployed in various parts of Africa, improving productivity across the continent (Dondofema *et al.*, 2017). The use of Operational excellence methods has fostered a more productive and quality-focused culture (Kikuchi and Suzuki, 2018).

However, *Operational Excellence and Quality Improvement* in Africa are under-discussed in the literature as opposed to empirical studies and research from other continents. (Allu and Emuze, 2018; Belhadi *et al.*, 2018). Given Africa's unique challenges via its varied geography, terrain, industry sectors and socio-economic factors (Collier and Gunning, 1999). There is a gap in the operational and Quality improvement literature (Kharub *et al.*, 2026). This special issue highlights the current state of work and practice related to Operational Excellence in Africa, as well as showcasing tools and practices used across different process types, sectors and organisations in various locations across the continent. Aligned with the increasing deployment of digitalisation, and with green and sustainability principles being increasingly integrated with Operational Excellence, this issue will present novel research from an African viewpoint and context.

2. Operational Excellence and Quality Management in Africa

In this section, a discussion of the fourteen selected papers is presented. In total 14 papers with themes related to Operational Excellence on the African continent were selected as shown in Table 1.

In the first article, Kharab *et al.* (2026) present an overview of Operational Excellence in Africa, revealing it to be linked with "innovation, strategic leadership, cultural dynamics, global market integration and data analytics". Their main finding was related to the importance of understanding culture and its role in operational strategies, as well as ensuring that operational processes are aligned with global trends and innovations and using data analytics to drive OpEx actions. To compliment this study Doyer and Odendaal (2026) reviewed the research landscape of Operational Excellence in Africa highlighting existing research trends and studies related to the African continent. Concluding that empirical studies and evidence of practice were very strongly demonstrated in literature related to



Table 1. List of selected papers and themes

Authors	Paper Title	Themes
(Kharub <i>et al.</i> , 2026)	<i>Operational Excellence in African Markets: Unveiling its Drivers, Processes, and Impacts through a Mixed-Methods Approach</i>	Operational Excellence Drivers in Africa and research key themes and trends
(Doyer and Odendaal, 2026)	<i>The Operational Excellence research landscape in Africa: a scoping review</i>	
(Kazancoglu <i>et al.</i> , 2026)	<i>An exploratory study on the practice of operational excellence in the automotive industry in Morocco</i>	Applications of operational Excellence in automotive industry in northern Africa, Tunisia, Morocco, Ethiopia, Nigeria with focus on Industry 4.0 and Sustainability themes
(Ben Fredj Ben Aleya, 2026)	<i>A Holistic Framework for Successfully Implementing a Plant-Wide Lean Pull System : Evidence from an Automotive Supplier in Tunisia</i>	
(Singh and Arega 2026)	<i>Impact of lean six sigma practices on organizational performance in the public automotive manufacturing factories in Ethiopia, Africa: Mediating effect of operational performance</i>	
(Ojubanire <i>et al.</i> , 2026)	<i>Industry 4.0 in Africa: challenges and opportunities in the Moroccan and Nigerian automotive industries</i>	
(Ait Hammou and Oulfarsi, 2026)	<i>Are Moroccan industries improving their sustainability through the implementation of Lean Six Sigma</i>	
(Fares <i>et al.</i> , 2026)	<i>Lean implementation case study for manual order picking and packing in warehousing operations</i>	Supply Chain/warehousing applications of Operational Excellence/Lean empirical studies
(Gomaa, 2026a)	<i>Achieving Operational Excellence in Manufacturing Supply Chains Using Lean Six Sigma: A Case Study Approach</i>	
(Mangaroo-Pillay, 2026)	<i>The Lean-Ubuntu leadership framework</i>	Cultural/Respect for People Lean models in South African context
(Coetzee <i>et al.</i> , 2026)	<i>The respect for people model for Lean implementation in south Africa</i>	
Singh and Fulasa (2026)	<i>Productivity improvement for 122 mm rocket warheads manufacturing using lean manufacturing tools: a case study</i>	Operational excellence empirical studies in munitions and petrochemical industries in North Africa, Ethiopia and Egypt
(Gomaa, 2026b)	<i>Enhancing Shutdown Maintenance Performance Using Lean Six Sigma : A Case Study</i>	
(Taha Kandil, 2026)	<i>Integrated Lean Six Sigma 4.0 for Operational Excellence: A Fuzzy Social Network hybrid MCDM Model to Assess Tourism Organizations' Resilience</i>	Lean Six Sigma and Digitilisation in African Tourism context

OpEx/Lean Six Sigma (LSS) deployment on the continent with South Africa featuring more strongly in the literature than other regions.

Following on from the theme of culture, [Mangaroo-Pillay \(2026\)](#) in their paper on “The Lean-Ubuntu leadership framework” and [Coetzee et al. \(2026\)](#) in their paper on “The respect for people model for Lean implementation in South Africa” discuss the importance of culture, team work and respect for people in their common themed papers.

[Mangaroo-Pillay \(2026\)](#) discussed how Lean implementation projects can often fail due to a lack of understanding of Lean and how it may be perceived culturally outside of Japan. Leveraging the earlier work of Mangaroo-Pillay and Coetzee (2022) on comparing the management styles of Lean and Ubuntu, this study examined the similarities between Lean and Ubuntu leadership, a native management philosophy and proposed a South African Lean-Ubuntu leadership framework. [Coetzee et al. \(2026\)](#) developed a people-centred model for lean implementation in the South African context, focusing on both continuous improvement and Respect for People. They concluded that “an improved people value stream will naturally lead to an improved product value stream”. Both of the papers, as mentioned above, recognise the importance of cultural context in terms of leadership, people involvement and strategy for Lean deployment.

Five papers in this special issue focused specifically on Operational Excellence applications in North Africa, Tunisia, Morocco, Ethiopia and Nigeria, and introduced examples of Industry 4.0 and Sustainability integration.

[Kazancoglu et al. \(2026\)](#) investigated OpEx integration across the Moroccan automotive industry, finding that they adopted such practices in a phased, methodical manner. Initially, they used Lean manufacturing, 5S and Kaizen, and then advanced to Six Sigma, which still remains a skills challenge. Many established specialised OpEx teams are aligned with leadership teams. Key, however, to the industry’s success was strong support from their global parent sites.

[Ben Fredj Ben Alaya \(2026\)](#) proposed a guiding framework for implementing an automotive plant lean pull system, demonstrating its applicability and practical relevance in a Tunisian automotive supplier company. [Singh and Arega \(2026\)](#) investigated the effect of LSS on organisational performance across the Ethiopian automotive sector while, [Ojubanire et al. \(2026\)](#) analysed digitalisation and Industry 4.0 effects in the wider Nigerian and Ethiopian automotive industry. Only one paper focussed strongly on the emerging themes of Sustainability and Operational Excellence with [Ait Hammou and Oulfarsi \(2026\)](#) demonstrating how LSS practices were aiding sustainability and environmental benefits in Moroccan industries.

Only the aforementioned two papers in the special issue addressed the emerging themes of digitalisation and sustainability in the context of African Operational Excellence. As mentioned previously these 2 studies were also situated in the automotive sector and industries in Morocco. [Ojubanire \(2026\)](#) in their discussion of Industry 4.0 in Africa, specifically in the Moroccan and Nigerian contexts, found significant differences in the perceived challenges and benefits of Industry 4.0 adoption between Morocco and Nigeria. These challenges included high implementation costs and resistance to change, as well as a lack of a skilled workforce, which were the main barriers. [Ait Hammou and Oulfarsi \(2026\)](#) investigated the impact of LSS tools in a Moroccan context on performance, focusing particularly on social and ecological benefits.

The majority of empirical studies focussed on the automotive industry but examples Operational Excellence implementation in the Egyptian petrochemical industry and Ethiopian munitions industry were presented by [Singh and Fulasa \(2026\)](#) and [Gomaa \(2026b\)](#).

While the majority of papers selected were related specifically to manufacturing and production, two papers in this special issue focused on the deployment of LSS in a warehousing and supply chain environment, respectively. [Fares *et al.* \(2026\)](#) analysed the application of lean thinking in warehousing operations' picking and packing processes. In turn, [Gomaa \(2026a\)](#) developed an integrated LSS framework to optimise supply chain management by reducing waste, improving process reliability and enhancing supply chain responsiveness. The framework was validated via a case study in a manufacturing company in Egypt.

The final paper in this special issue was the only service related application of LSS and digitilisation and focussed on the tourist industry investigating how LSS4.0 improved the sector resilience ([Taha Kandil, 2026](#)).

3. Conclusion

The studies in this special issue can be summarised into the themes of integrating Operational Excellence and people culture, the benefits and challenges of OpEx adoption and deployment, as illustrated through case studies and quantitative research, and how Industry 4.0 and sustainability can benefit Operational Excellence. Key to many of the studies was the importance of having a holistic framework for OpEx deployment and integrating people, respect, local and organisational culture into these deployments.

While a limitation of the special issue is that studies were mainly from the manufacturing sector with only one service industry study example; strong application of LSS and OpEx implementation was evidenced in the automotive sector specifically and in Tunisian, Nigerian, Egyptian and Moroccan applications and contexts as opposed to other sectors and continental geographic regions. However, the themes discussed in terms of digitalisation readiness, the benefits of sustainability and the benefits, challenges and opportunities arising from LSS deployment are relevant for industries and sectors across the continent. In particular, the holistic framework proposed from an operational and cultural deployment viewpoint and in the African industry context has implications for other African organisations. Another limitation identified is the scarcity of studies focusing on sub-Saharan regions. There is a notable lack of research examining the public sector in Africa. The state of operational challenges within the African public sector remains concerning, underscoring the urgent need for scholars to investigate the implementation of Operational Excellence and Quality Management practices across this context. We argue based on the experience with the special issue to develop context-specific frameworks for public sector transformation. Other areas could be Africa's fragmented supply chains and logistics infrastructures pose unique challenges to operational excellence adoption. Thus, there is urgent need to explore how operational excellence methodologies can improve supply chain visibility, resilience and collaboration across manufacturing, logistics and distribution networks. The African economy is increasingly service-oriented, yet operational excellence adoption in these sectors is not well understood. Future studies should examine how LSS and digital quality management can enhance service efficiency, customer satisfaction and innovation.

This special issue has implications for presenting best-practice Operational Excellence empirical research that can be leveraged by other industries, sectors and practitioners on the continent. The studies demonstrate that Operational Excellence is alive and well in Africa, even if empirical and other research from Africa is not as prolific as in other continents. The fact that most of the studies presented tended to be practice-led is a testimony to the relevance of Operational Excellence, Quality Management and LSS in companies on the continent.

Future research in the African context should expand to non-manufacturing sectors and the broader public sector, agri-industry, health care and construction contexts as well as looking at other regions outside of South Africa and other specific countries. Emerging Operational Excellence themes such as sustainability, digitisation, Lean Green and their integration are opportunities for future empirical study and applications.

Olivia McDermott

*College of Science and Engineering, National University of Ireland Galway,
Galway, UK*

Michael Sony

WITS Business School, Oxford Brookes University, Oxford, UK

Anass Cherrafi

Université Cadi Ayyad, Marrakech, Morocco, and

Jamal El Baz

Ibn Zohr University, Agadir, Morocco

References

- Ait Hammou, I. and Oulfarsi, S. (2026), "Are Moroccan industries improving their sustainability through the implementation of Lean Six Sigma?", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 542-578.
- Allu, E.L.A. and Emuze, F. (2018), "Advancing lean implementation for improving sustainability in Sub-Saharan Africa: a literature review", *Sustainability (United States)*, Vol. 11 No. 3, pp. 127-135, doi: [10.1089/sus.2018.0003](https://doi.org/10.1089/sus.2018.0003).
- Belhadi, A., Touriki, F. and El Fezazi, S. (2018), "Lean implementation in small and medium-sized enterprises in less developed countries: some empirical evidences from North Africa", *Journal of Small Business Management*, Vol. 56, pp. 132-153, doi: [10.1111/jsbm.12396](https://doi.org/10.1111/jsbm.12396).
- Ben Fredj Ben Alaya, L. (2026), "A holistic framework for successfully implementing a plant-wide lean pull system: evidence from an automotive supplier in Tunisia", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 438-468.
- Coetzee, R., van der Merwe, K.R. and van Dyk, L. (2026), "The respect for people model for lean implementation in South Africa", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 668-690.
- Collier, P. and Gunning, J.W. (1999), "Why has Africa grown slowly?", *Journal of Economic Perspectives*, Vol. 13 No. 3, pp. 3-22.
- Doyer, I. and Odendaal, P. (2026), "The operational excellence research landscape in Africa: a scoping review", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 380-400.
- Fares, N., Lloret, J., Kumar, V., Frederico, G.F., Kamach, O. and Garza-Reyes, J.A. (2026), "Lean implementation case study for manual order picking and packing in warehousing operations", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 579-613.
- Gomaa, A.H. (2026a), "Achieving operational excellence in manufacturing supply chains using lean six sigma: a case study approach", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 614-648.
- Gomaa, A.H. (2026b), "Enhancing shutdown maintenance performance using Lean Six Sigma: a case study", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 743-781.

- Gutman, J., Sy, A. and Chattopadhyay, S. (2015), "Financing African infrastructure: can the world deliver?".
- Kazancoglu, Y., Garza-Reyes, J.A., Elgharbaoui, M. and Abbana Bennani, C. (2026), "An exploratory study on the practice of operational excellence in the automotive industry in Morocco", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 401-437.
- Kharub, M., Sony, M., Gupta, H. and McDermott, O. (2026), "Operational excellence in African markets: unveiling its drivers, processes and impacts through a mixed-methods approach", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 351-379, doi: [10.1108/IJLSS-02-2024-0020](https://doi.org/10.1108/IJLSS-02-2024-0020).
- Kikuchi, T. and Suzuki, M. (2018), "Kaizen and standardization", in Otsuka, K., Jin, K. and Sonobe, T. (Eds), *Applying the Kaizen in Africa: A New Avenue for Industrial Development*, Springer International Publishing, Cham, pp. 111-149, doi: [10.1007/978-3-319-91400-8_4](https://doi.org/10.1007/978-3-319-91400-8_4).
- Mangaroo-Pillay, M. (2026), "The Lean-Ubuntu leadership framework", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 649-667.
- Mersha, T. (2000), "Quality, competitiveness and development in Sub-Saharan Africa", *Industrial Management and Data Systems*, Vol. 100 No. 3, pp. 119-124.
- Ojubanire, O.A., Marhraoui, M.A., Sebti, H. and Berbain, S. (2026), "Industry 4.0 in Africa: challenges and opportunities in the Moroccan and Nigerian automotive industries", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 511-541.
- Taha Kandil, T. (2026), "Integrated lean Six-Sigma 4.0 operational excellence: a fuzzy social networks hybrid MCDM model to assess tourism organisations' resilience", *International Journal of Lean Six Sigma*, Vol. 17 No. 2, pp. 782-808.